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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,079	04/02/2004	Ronald Truelove	70459-013000	2148

7590 06/09/2005

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EXAMINER

CHANG, CHING

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 06/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

6

Office Action Summary	Application No.		Applicant(s)	
	10/817,079		TRUELOVE ET AL.	
	Examiner		Art Unit	
	Ching Chang		3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/02/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. Figures 1-2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. ***Claims 1-2, 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Reiners et al. (US Patent 3,034,488).***

Reiners discloses a cam follower (including 31) having a substantially cylindrical form, with a cam engaging surface to a base of the substantially cylindrical form and a pushrod engaging surface (53) to the other end (See Fig. 1), the cam follower being

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hollow and characterised in that the substantially cylindrical form tapers (part of 31) toward the pushrod engaging surface such that the portion of the cam follower bearing the pushrod engaging surface is substantially conicular; wherein the portion of the cam follower bearing the pushrod engaging surface comprises a frustro conicular shape; wherein the cam engaging surface comprises a roller; wherein the pushrod engaging surface comprises a cup; wherein the pushrod engaging surface (to match with 52) comprises a ball; wherein an engine (11) valve train comprising the said cam follower.

3a. *Claims 1-2, 14-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Speckhart (US Patent 4,173,954).*

Speckhart discloses a cam follower (20) having a substantially cylindrical form (146, 175), with a cam engaging surface to a base of the substantially cylindrical form and a pushrod (26) engaging surface (176) to the other end, the cam follower being hollow and characterised in that the substantially cylindrical form tapers (170) toward the pushrod engaging surface such that the portion of the cam follower bearing the pushrod engaging surface is substantially conicular; wherein the portion of the cam follower bearing the pushrod engaging surface comprises a frustro conicular shape (179); wherein the cam engaging surface comprises a roller (148); wherein the pushrod engaging surface comprises a cup; wherein the pushrod engaging surface (176) comprises a ball; wherein an engine valve train comprising the said cam follower (See Fig. 1).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. ***Claims 1, 13, and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decuir (US Patent 5,394,843) in view of Matteo (US Patent 3,272,190).***

Decuir discloses a cam follower (114) having a substantially cylindrical form, with a cam engaging surface to a base of the substantially cylindrical form and a pushrod (100) engaging surface to the other end (See Fig. 1), the cam follower being hollow; wherein the cam engaging surface is substantially flat or spherical; wherein the pushrod engaging surface comprises a cup; wherein the pushrod engaging surface comprises a ball; wherein an engine valve train (70) comprising the said cam follower.

Decuir discloses the invention as recited above, however, fails to disclose that the substantially cylindrical form tapers toward the pushrod engaging surface such that the portion of the cam follower bearing the pushrod engaging surface is substantially conical.

The patent to Matteo on the other hand, teaches that it is conventional in the tapered push rod art, to utilize a hollow and tapered push rod (20)(deemed to be part of a cam follower) which maintains a satisfied bending strength during the operation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified a portion of the said cam follower bearing the said pushrod surface, to be in a tapered form as taught by Mattro, in the Decuir device, since the use thereof would provide a light-weight cam follower, while maintains the required bending strength during operation.

6. *Claims 2, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decuir in view of Matteo (as applied to claim 1), and further in view of Ott (US Patent 4,589,384).*

The modified Decuir device, however, fails to disclose the pushrod engaging surface comprising a frustro conicular shape, and the cam engaging surface comprising a roller.

The patent to Ott on the other hand, teaches that it is conventional in the rocker arm lifter assembly art, to utilize a lifter assembly (14) having a frusto-conical section 62 and a cam engaging surface comprising a roller (30).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the frusto-conical and the roller contacting surfaces as taught by Ott in the modified Decuir device, since the use thereof would provide improved cam follower with less friction loss during the operation.

7. *Claims 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Decuir in view of Ott (as applied to claim 1), and further in view of design choice.*

The modified Decuir device discloses the invention except for the specific length ratio between tapering portion and the cylinder portion, the tapering angle, and the ratio of diameter to length of cylinder portion bearing the cam engaging surface, in the said cam follower.

Since the modified, light-weight Decuir device maintains the required bending strength during operation, it would have been an obvious matter of design choice, the dimensional variations would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re rose*, 105 USPQ 237 (CCPA 1955).

8. *Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Speckhart in view of Decuir (US Patent 5,394,843).*

Speckhart discloses the invention, however, fails to disclose the cam engaging surface being substantially flat.

The patent to Decuir on the other hand, teaches that it is conventional in the valve control device art, to utilize a hollow cam follower (114) with the cam engaging surface being substantially flat (See Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the hollow cam follower with a cam engaging

surface being substantially flat, as taught by Decuir, in the Speckhart device, since the use thereof would provide a cost effective and easier manufactured cam follower.

9. *Claims 3-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Speckhart (as applied to claim 1) in view of design choice.*

The Speckhart device discloses the invention except for the specific length ratio between tapering portion and the cylinder portion, the tapering angle, and the ratio of diameter to length of cylinder portion bearing the cam engaging surface, in the said cam follower.

Since the light-weight Speckhart device already maintains the required bending strength during operation, it would have been an obvious matter of design choice, the dimensional variations would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re rose*, 105 USPQ 237 (CCPA 1955).

Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

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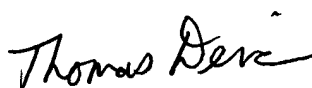
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patent Examiner



Ching Chang



THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700